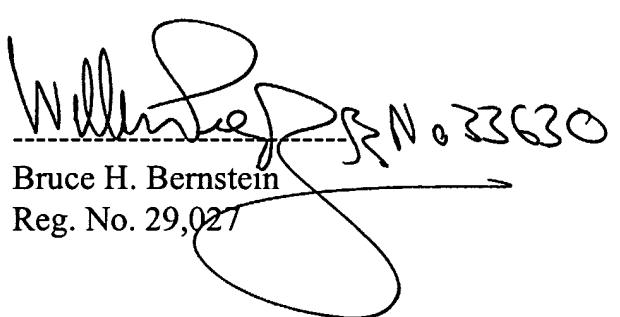


P22019.A02

cosmetic in nature, not made in view of any prior art, do not narrow the scope of the claims and thus should not give rise to any estoppel.

If there should be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,  
Duck - Young KIM et al.

  
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June 4, 2002  
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**MARKED-UP COPY OF AMENDED CLAIMS**

1. (Amended) An apparatus for measuring the thickness of a material using the focal length of a lensed fiber comprising:

a piezo Electric Transducer [12] (PZT) which moves vertically against the material to be measured;

a lensed fiber [10] which is attached to said PZT for emitting a Gaussian beam;

a laser [14] for emitting a beam source;

a beam shutter [16] for stopping the beam output returning;

a 3dB optical fiber coupler for separating the beam strength from said lensed fiber [10] and laser [14] by 50:50;

a beam detector [20] for detecting reflected beam strength from the end of said lensed fiber;

a RC filter [22] for filtering said detected beam;

a microprocessor for analyzing said detected beam strength;

an amplifier [26] for amplifying the strength of electric signals according to the control of said microprocessor [24];

a PZT driver [28] for driving PZT [12] according to the strength of electric signals amplified by said amplifier [26];

a X-Y axis scanner driver [30] for driving [the] a X-Y axis scanner according to the control of said microprocessor [24];

a X axis scanner [32] for driving the X axis according to the driving of the X-Y axis scanner; and

a Y axis scanner [32] for driving the Y axis according to the driving of the X-Y axis scanner.

2. (Amended) A method for measuring the thickness of a material using the focal length of a lensed fiber, wherein said lensed fiber generates a form of Gaussian Beam and is attached to PZT [12] in order to detect the quantity of beam while the lensed fiber is moved vertically against the material to be measured.

3. (Amended) The apparatus as claimed in Claim 1, wherein the thickness of said material is measured by using a lensed fiber [10] whose focal length is longer than the beam coherent length of the beam.

5. (Twice Amended) The method as claimed in Claim 2, wherein instead of the lensed fiber [10], a normal lens is used for measuring the thickness of the material.

8. (Amended) The apparatus as claimed in Claim 1, wherein instead of the lensed fiber [10], a normal lens is used for measuring the thickness of the material.

9. (Amended) The apparatus as claimed in Claim 3, wherein instead of the lensed fiber [10], a normal lens is used for measuring the thickness of the material.

10. (Amended) The apparatus as claimed in Claim 4, wherein instead of the lensed fiber [10], a normal lens is used for measuring the thickness of the material